

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Complete Listing of the Claims:

1. (Currently Amended) A fluid heating device, comprising:  
a case ~~member~~; and  
a heating element accommodated in ~~[[said]] the case member, wherein~~  
a flow path ~~being-formed is defined~~ between an outer surface of ~~[[said]] the~~ heating element and an inner surface of ~~[[said]] the case, wherein~~  
~~the fluid heating device further comprises member, and further comprising a~~  
~~turbulent flow generation mechanism comprising a part that is having a part which is~~  
~~configured to slide and vibrate such that vibratable to generate~~ a turbulent flow ~~is~~  
~~generated~~ in at least a part of ~~[[said]] the~~ flow path.
2. (Currently Amended) The fluid heating device according to claim 1, wherein  
~~[[said]] the~~ turbulent flow generation mechanism is provided in a portion ~~of the~~  
~~flow path~~ where the speed of a fluid circulated in ~~[[said]] the~~ flow path is reduced.
3. (Currently Amended) The fluid heating device according to claim 1, wherein  
~~[[said]] the~~ turbulent flow generation mechanism is provided ~~[[on]] at~~ a  
downstream side of ~~[[said]] the~~ flow path.
4. (Currently Amended) The fluid heating device according to claim 1, wherein

[[said]] the turbulent flow generation mechanism is intermittently provided in  
[[said]] the flow path.

5. (Currently Amended) The fluid heating device according to claim 1, wherein  
[[said]] the turbulent flow generation mechanism is provided [[on]] at an  
upstream side of [[said]] the flow path.

6. (Currently Amended) The fluid heating device according to claim 1, wherein  
[[said]] the heating element comprises a stick shape having a circular or an  
elliptical cross section.

7. (Currently Amended) The fluid heating device according to claim 6, wherein  
[[said]] the turbulent flow generation mechanism comprises a spiral member wound  
around an outer peripheral surface of [[said]] the heating element.

8. (Currently Amended) The fluid heating device according to claim 7, wherein  
[[said]] the spiral member is composed of a spiral spring.

9. (Currently Amended) The fluid heating device according to claim 7, wherein  
[[said]] the case ~~member~~ comprises a cylindrical fluid inlet and a cylindrical fluid  
outlet that are provided parallel to the direction in which [[said]] the spiral member is  
wound.

10. (Currently Amended) The fluid heating device according to claim 6, wherein  
[[said]] the case ~~member~~ comprises a fluid inlet and a fluid outlet, and wherein  
at least one of [[said]] the fluid inlet and [[said]] the fluid outlet is provided at a  
position eccentric from the center axis of [[said]] the heating element such that a fluid  
flows in a direction along [[the]] an outer peripheral surface of [[said]] the heating  
element or flows out in the direction along the outer peripheral surface of [[said]] the  
heating element.

11. (Currently Amended) The fluid heating device according to claim 1, wherein  
[[said]] the heating element has a maximum calorific value ~~of not less than~~ in a  
range of approximately 1.5 kW ~~not more than~~ to approximately 2.5 kW.

12. (Currently Amended) The fluid heating device according to claim 1, wherein  
[[said]] the heating element is configured so that the maximum gradient of the  
temperature rise speed of a fluid is not less than approximately 10 K per second.

13. (Currently Amended) The fluid heating device according to claim 1, wherein  
[[said]] the heating element comprises a sheathed heater.

14. (Currently Amended) The fluid heating device according to claim 13,  
wherein [[said]] the sheathed heater has a maximum watt density ~~of not less than~~ in a  
range of approximately 30 W/cm<sup>2</sup> ~~not more than~~ to approximately 50 W/cm<sup>2</sup>.

15. (Currently Amended) The fluid heating device according to claim 1, wherein  
[[said]] the heating element comprises a ceramic heater.

16. (Currently Amended) The fluid heating device according to claim 1, further  
comprising:

a temperature detector that detects the temperature of [[said]] the heating element;  
and

a ~~control device~~ controller that controls the supply of power to [[said]] the heating  
element ~~on the basis of~~ based on the temperature detected by [[said]] the temperature  
detector.

17. (Currently Amended) The fluid heating device according to claim 16, further  
comprising:

a heat sensitive plate comprising a portion configured to come into contact with  
[[said]] the heating element and to project toward an outside of [[said]] the case ~~member~~,  
wherein

[[said]] the temperature detector ~~being~~ is provided outside [[said]] the case  
~~member~~ and ~~detecting~~ is configured to detect the temperature of [[said]] the heating  
element through [[said]] the heat sensitive plate.

18. (Currently Amended) The fluid heating device according to claim 17,  
wherein

[[said]] the heating element comprises a heating portion and a non-heating portion, and

[[said]] the heat sensitive plate is configured to come into contact with the non-heating portion ~~in-said of~~ the heating element.

19. (Currently Amended) The fluid heating device according to claim 17, wherein

[[said]] the case ~~member~~ comprises [[said]] a fluid inlet and [[said]] a fluid outlet, and

[[said]] the heat sensitive plate is configured so as to come into contact with [[said]] the heating element in a vicinity of the fluid outlet ~~of said case member~~.

20. (Currently Amended) The fluid heating device according to claim 17, wherein [[said]] the heat sensitive plate is joined ~~to said~~ onto the heating element.

21. (Currently Amended) The fluid heating device according to claim 17, wherein [[said]] the heat sensitive plate is brazed to [[said]] the heating element.

22. (Previously Presented) The fluid heating device according to claim 17, wherein [[said]] the heat sensitive plate comprises a leakage preventing function ~~for preventing configured to prevent~~ leakage of a fluid within [[said]] the case ~~member~~.

23. (Currently Amended) The fluid heating device according to claim 17, wherein ~~[[said]]~~ the heat sensitive plate is composed of a metal.

24. (Currently Amended) The fluid heating device according to claim 17, wherein ~~[[said]]~~ the heat sensitive plate is composed of a copper plate.

25. (Currently Amended) The fluid heating device according to claim 17, wherein ~~[[said]]~~ the heat sensitive plate is formed ~~in a~~ having a substantially L shape.

26. (Currently Amended) The fluid heating device according to claim 1, further comprising:

a heat transfer member comprising a portion configured to come into contact with a fluid in ~~[[said]]~~ the flow path and to project toward the outside of ~~[[said]]~~ the case member, and

a heat generating electronic component provided in a portion of ~~[[said]]~~ the heat transfer member projecting toward ~~[[the]]~~ an outside of ~~[[said]]~~ the case member ~~for supplying~~ configured to supply power to ~~[[said]]~~ the heating element.

27. (Currently Amended) The fluid heating device according to claim 26, wherein

~~[[said]]~~ the case member comprises ~~[[said]]~~ a fluid inlet and ~~[[said]]~~ a fluid outlet, and

[[said]] the heat transfer member is configured to come into contact with [[said]] the fluid in the vicinity of the fluid inlet of ~~said case member~~.

28. (Currently Amended) The fluid heating device according to claim 26, wherein [[said]] the heat transfer member performs a leakage preventing function ~~for preventing configured to prevent~~ leakage of a fluid within [[said]] the case member.

29. (Currently Amended) The fluid heating device according to claim 26, wherein [[said]] the heat transfer member is composed of a metal.

30. (Currently Amended) The fluid heating device according to claim 26, wherein [[said]] the heat transfer member is composed of a copper plate.

31. (Currently Amended) The fluid heating device according to claim 26, wherein [[said]] the heat transfer member is formed ~~in a~~ having a substantially L shape.

32. (Currently Amended) A fluid heating device, comprising:  
a case member; and  
a heating element accommodated in [[said]] the case member, wherein  
a flow path ~~being formed~~ is defined between an outer surface of [[said]] the heating element and an inner surface of [[said]] the case, wherein

~~the fluid heating device further comprises member, and further comprising~~ a turbulent flow generation mechanism that generates turbulent flow in at least a part of ~~[[said]] the~~ flow path, wherein

~~[[said]] the case member~~ comprises a plurality of case ~~member~~ parts,

~~[[said]] the~~ heating element comprises a plurality of heating element parts respectively accommodated in ~~[[said]] the~~ plurality of case ~~member~~ parts,

a flow path ~~is formed~~ defined between an inner surface of each of the case ~~member~~ parts and an outer surface of each of the heating element parts, and wherein

~~[[said]] the~~ turbulent flow generation mechanism further comprises a plurality of turbulent flow generation mechanism parts configured to slide and vibrate such that generate a turbulent flow is generated in at least a part of each of ~~[[said]] the~~ plurality of flow paths.

33. (Currently Amended) The fluid heating device according to claim 32, wherein

each of the plurality of case ~~member~~ parts comprises a fluid inlet and a fluid outlet, and

the fluid outlet of one of the case ~~member~~ parts ~~is formed such that it can~~ configured to be fitted in the fluid inlet of ~~the other~~ another case ~~member~~ part.

34. (Currently Amended) The fluid heating device according to claim 32, wherein



each of the plurality of case ~~member~~ parts comprises a fluid inlet and a fluid outlet, the fluid heating device further comprising:

a ~~connection-member~~ connector configured to connect the fluid outlet of one of ~~[[said]] the case member parts to the fluid inlet of an other~~ another of ~~[[said]] the case member part.~~

35. (Currently Amended) The fluid heating device according to claim 32, wherein ~~[[said]] the plurality of case member parts have the same shape.~~

36. (Currently Amended) A washing apparatus that sprays a fluid supplied from a water supply source to a portion to be washed of the human body, comprising:

a fluid heating device that heats the fluid supplied from ~~[[said]] the~~ water supply source while causing the fluid to flow; and

a ~~spray-device~~ a sprayer that sprays the fluid heated by ~~[[said]] the~~ fluid heating device to ~~[[said]] the~~ human body,

~~[[said]] the~~ fluid heating device comprising:

a case ~~member~~, and

a heating element accommodated in ~~[[said]] the~~ case ~~member~~,

a flow path ~~being formed~~ defined between an outer surface of ~~[[said]] the~~ heating element and an inner surface of ~~[[said]] the~~ case, wherein

the fluid heating device further comprises member, and further comprising a turbulent flow generation mechanism comprising a part that is configured to slide and

~~vibrate such that vibratable to generate~~ a turbulent flow is generated in at least a part of  
[[said]] the flow path.

37. (Currently Amended) A washing apparatus that washes clothes using a fluid supplied from a water supply source, comprising:

a washing tub;

a fluid heating device that heats the fluid supplied from [[said]] the water supply source while causing the fluid to flow; and

~~a supply device~~ supplier that supplies ~~to the washing tub~~ the fluid heated by  
[[said]] the fluid heating device to the washing tub heating device,

[[said]] the fluid heating device comprising:

a case member, and

a heating element accommodated in [[said]] the case member,

a flow path ~~being formed~~ defined between an outer surface of [[said]] the heating element and an inner surface of [[said]] the case, wherein

the fluid heating device further comprises member, and further comprising a turbulent flow generation mechanism comprising a part that is ~~vibratable to generate configured to slide and vibrate such that~~ a turbulent flow is generated in at least a part of  
[[said]] the flow path.

38. (New) The fluid heating device according to claim 1, wherein the turbulent flow generation mechanism has a free end and a fixed end, and wherein the fixed end is connected to the heating element.

39. (New) The fluid heating device according to claim 32, wherein the turbulent flow generation mechanism has a free end and a fixed end, and wherein the fixed end is connected to the heating element.

40. (New) The fluid heating device according to claim 36, wherein the turbulent flow generation mechanism has a free end and a fixed end, and wherein the fixed end is connected to the heating element.

41. (New) The fluid heating device according to claim 37, wherein the turbulent flow generation mechanism has a free end and a fixed end, and wherein the fixed end is connected to the heating element.